

IN THE CLAIMS

1. (Currently Amended) A fuel injector having a fuel inlet, a fuel outlet, and a fuel passageway extending from the fuel inlet to the fuel outlet along a longitudinal axis, the fuel injector comprising:

a body having an inlet portion, an outlet portion, and a neck portion disposed between the inlet portion and the outlet portion, the neck portion having a surface defining a portion of the fuel passageway;

an armature adjacent the inlet portion of the body;

a needle operatively connected to the armature;

a seat disposed within the body, the seat proximate the needle and having a first face, a second face, and a circumferential surface disposed between the first face and the second face, the circumferential surface including a first zone and a second zone that are connected by an intermediate zone extending substantially perpendicular to the first and second zones, the intermediate zone contiguously engaging the passageway of the neck portion of the body; and

a seal disposed between the second zone of the seat and the body so that the seal thermally isolates the second zone of the seat from the body.

2. (Original) The fuel injector according to claim 1, wherein the body includes a retention member that engages the intermediate zone of the seat.

3. (Original) The fuel injector according to claim 2, wherein the retention member includes a surface that engages the intermediate zone of the seat to define a first contact area between the body and the seat.

4. (Original) The fuel injector according to claim 3, wherein the retention member comprises a crimped section on the neck portion and is disposed at the outlet portion of the body.

5. (Currently Amended) The fuel injector according the claim 1, further comprising:

a swirl generator disk comprising a first surface and a second surface, the first surface of the swirl generator disk adjacent the armature, the second surface of the swirl generator disk adjacent the first face of the seat; and

a guide disk comprising a first surface and a second surface, the first surface of the guide disk adjacent the outlet portion [~~armature~~], the second surface of the guide disk adjacent the first surface [[face]] of the swirl generator disk.

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6. (Original) The fuel injector according to claim 5, wherein the swirl generator disk and the guide disk define a second contact area between the body and the seat.

7. (Original) The fuel injector according to claim 1, wherein the seal comprises polytetrafluoroethylene.

8. (Currently Amended) A body and a seat for a fuel injector having a fuel inlet, a fuel outlet, and a fuel passageway extending from the fuel inlet to the fuel outlet along a longitudinal axis, the body and the seat comprising:

a body having an inlet portion, an outlet portion, and a neck portion disposed between the inlet portion and the outlet portion, the neck portion having a surface defining a portion of the fuel passageway; and

a seat disposed within the body, the seat having a first face, a second face, and an circumferential surface disposed between the first face and the second face, the circumferential surface including a first zone and a second zone that are connected by an intermediate zone extending substantially perpendicular to the first and second zones, the intermediate zone contiguously engaging the passageway of the neck portion of the body, and the second zone being thermally isolated from the body.

9. (Original) The body and the seat according to claim 8, wherein the body includes a retention member having a surface engaging the intermediate zone of the seat, the surface of the retention member defining a first contact area between the body and the seat.

10. (Currently Amended) The body and the seat according to claim 9, further comprising:

a swirl generator disk comprising a first surface and a second surface, the first surface of the swirl generator disk adjacent the inlet portion of the body, the second surface of the swirl generator disk adjacent the first face of the seat; and

a guide disk comprising a first surface and a second surface, the first surface of the guide disk adjacent the outlet [~~inlet~~] portion of the body, the second surface of the guide disk adjacent the first surface [[face]] of the swirl generator disk.

11. (Original) The body and seat according to claim 8, further comprising:

a seal disposed between the second zone of the seat and the body, the seal thermally isolating the seat from the body.

12. (Currently Amended) A method of forming a fuel injector having a fuel inlet, a fuel outlet, a fuel passageway extending from the fuel inlet to the fuel outlet along a longitudinal axis, a body having an inlet portion, an outlet portion, and a neck portion disposed between the inlet portion and the outlet portion, the neck portion having a surface defining a portion of the fuel passageway, and a seat disposed within the body, the seat having a first face, a second face, and a circumferential surface disposed between the first face and the second face, the circumferential surface including a first zone and a second zone that are connected by an intermediate zone extending substantially perpendicular to the first and second zones, the method comprising:

contiguously engaging the intermediate zone of the seat with the passageway of the neck portion of the body; and

thermally isolating the second zone of the seat from the body.

13. (Original) The method according to claim 12, further comprising:

disposing a seal between the second zone of the seat and the body to thermally isolate the seat from the body.

14. (Original) The method according to claim 12, further comprising:

retaining the intermediate zone of the seat and the body with a retention member.

15. (Previously Presented) The method according to claim 14, wherein the contiguously engaging comprises defining a first contact area between the body and the seat.

16. (Previously Presented) The method according to claim 15, wherein the retaining includes crimping a section on the neck portion that is disposed at the outlet portion of the body.

17. (Previously Presented) The method according to claim 12, wherein the disposing comprises a polytetrafluoroethylene seal.